Name : Abhinav Sanjay

USN : 1BM23CS009

Develop a Java program to create a class
Student with members usn,
name, an array credits and an array marks. Include methods to accept and
display details and a method to calculate SGPA of a student.

```
import java.util.Scanner;


class Student
{
   String name;
   String usn;
   int credits[] = new int[8];
   int marks[] = new int[8];
   double sgpa=0.0;
   double cgpa;
   int grade[] = new int[8];


   double calculate(int m[], int c[])
 {
      int j;
      double sum = 0.0;
      int div = 0;
      for (j = 0; j < 8; j++)
      {
         if (m[j] != 100)
         {
            grade[j] = (m[j] + 10) / 10;
         }
         else
```

```
        {
            grade[j] = 10;
        }
        div = credits[j] + div;
        sum = sum + (grade[j] * credits[j]);
        System.out.println("Grade for subject " + (j + 1) + ": " + grade[j]); // error check
      }
      sgpa = sum / div;
      System.out.println("SGPA: " + sgpa);
      return sgpa;
   }
double calcgpa(double sgpa1, double sgpa2)
{
cgpa=(sgpa1+sgpa2)/2;
return cgpa;
}
void input()
{
Scanner sc=new Scanner(System.in);
      System.out.println("Now enter subject credits for semester:");
      int i;
      for (i = 0; i < 8; i++)
      {
         credits[i] = sc.nextInt();
      }
      System.out.println("Now enter subject marks for semester:");
      for (i = 0; i < 8; i++)
      {
         marks[i] = sc.nextInt();
      }
}
```

```
   public static void main(String args[]) {
Scanner sc1 = new Scanner(System.in);
System.out.println("Enter number of students: ");
int n=sc1.nextInt();
Student obj[]=new Student[n];
int k;
for(k=0;k<n;k++)
{
obj[k]=new Student();
System.out.println("Enter Student name: ");
      String name = sc1.next();
System.out.println("Enter Student USN: ");
      String usn = sc1.next();
obj[k].input();
System.out.println("Semester 1");
      double result = obj[k].calculate(obj[k].marks, obj[k].credits);
      System.out.println("1st Semester SGPA for " + obj[k].name + " (" + obj[k].usn + ") is: " +
result);
System.out.println("Semester 2");
obj[k].input();
      double result2 = obj[k].calculate(obj[k].marks, obj[k].credits);
      System.out.println("2nt Semester SGPA for " + obj[k].name + " (" + obj[k].usn + ") is: " +
result2);
System.out.println("CGPA for 1st year is : "+obj[k].calcgpa(result,result2));
}
   }
}
```

Output:

```
D:\Abhinav3A\Java>java Student
Enter number of students:
3
Enter Student name:
A
Enter Student USN:
1
Now enter subject credits for semester:
3
3
3
3
3
3
3
3
Now enter subject marks for semester:
85
90
91
90
89
78
70
95
Semester 1
Grade for subject 1: 9
Grade for subject 2: 10
Grade for subject 3: 10
Grade for subject 4: 10
Grade for subject 5: 9
Grade for subject 6: 8
Grade for subject 7: 8
Grade for subject 8: 10
SGPA: 9.25
1st Semester SGPA for null (null) is: 9.25
Semester 2
Now enter subject credits for semester:
5
5
5
5
5
5
5
5
Now enter subject marks for semester:
90
98
95
96
87
85
80
```

```
Grade for subject 1: 10
Grade for subject 2: 10
Grade for subject 3: 10
Grade for subject 4: 10
Grade for subject 5: 9
Grade for subject 6: 9
Grade for subject 7: 9
Grade for subject 8: 9
SGPA: 9.5
2nt Semester SGPA for null (null) is: 9.5
CGPA for 1st year is : 9.375
Enter Student name:
B
Enter Student USN:
2
Now enter subject credits for semester:
5
5
5
5
5
5
5
5
Now enter subject marks for semester:
90
89
78
87
89
97
79
90
Semester 1
Grade for subject 1: 10
Grade for subject 2: 9
Grade for subject 3: 8
Grade for subject 4: 9
Grade for subject 5: 9
Grade for subject 6: 10
Grade for subject 7: 8
Grade for subject 8: 10
SGPA: 9.125
1st Semester SGPA for null (null) is: 9.125
Semester 2
Now enter subject credits for semester:
5
5
5
5
5
5
5
5
Now enter subject marks for semester:
90
98
89
79
98
90
95
```

```
89
Grade for subject 1: 10
Grade for subject 2: 10
Grade for subject 3: 9
Grade for subject 4: 8
Grade for subject 5: 10
Grade for subject 6: 10
Grade for subject 7: 10
Grade for subject 8: 9
SGPA: 9.5
2nt Semester SGPA for null (null) is: 9.5
CGPA for 1st year is : 9.3125
Enter Student name:
C
Enter Student USN:
3
Now enter subject credits for semester:
5
5
5
5
5
5
5
5
Now enter subject marks for semester:
90
98
78
87
79
89
98
78
Semester 1
Grade for subject 1: 10
Grade for subject 2: 10
Grade for subject 3: 8
Grade for subject 4: 9
Grade for subject 5: 8
Grade for subject 6: 9
Grade for subject 7: 10
Grade for subject 8: 8
SGPA: 9.0
1st Semester SGPA for null (null) is: 9.0
Semester 2
Now enter subject credits for semester:
5
5
5
5
5
5
5
5
Now enter subject marks for semester:
8
90
95
95
95
95
98
```

```
98
90
Grade for subject 1: 1
Grade for subject 2: 10
Grade for subject 3: 10
Grade for subject 4: 10
Grade for subject 5: 10
Grade for subject 6: 10
Grade for subject 7: 10
Grade for subject 8: 10
SGPA: 8.875
2nt Semester SGPA for null (null) is: 8.875
CGPA for 1st year is : 8.9375

D:\Abhinav3A\Java>
```